

1           1.       (AMENDED) A method of detecting a sequence of information symbols from a first  
2 signal subjected to inter-symbol interference, wherein each symbol of the sequence of information  
3 symbols can adopt one of a [number] plurality of different values, said method being performed as [one  
4 or more] at least one signal processing [paths] path, [and wherein the following steps are performed  
5 repetitively] the method comprising:

6                   setting, in each of said [one or more] at least one signal processing [paths] path, a  
7 symbol in the sequence of information symbols to a value based on an intermediate signal derived from  
8 said first signal and a feedback signal generated on the basis of one or more previously set symbols[,];

9                   dividing a signal processing path, in which said intermediate signal for a given symbol  
10 exceeds a given threshold, into two separate signal processing paths, setting said given symbol to  
11 different values in each of said two separate signal processing paths[, and];

12                  selecting, after setting [a number] at least one [of symbols] symbol, the sequence of  
13 information symbols from one of said [one or more] at least one signal processing [paths] path as [the]  
14 a detected sequence of information symbols[,]; and  
15 [characterized in that

16                  said method further comprises the step of] adjusting said given threshold in accordance  
17 with an estimate of noise in said intermediate signal.

1           2.       (AMENDED) A method according to claim 1, [characterized in that] wherein said  
2 noise is estimated by use of a known sequence of symbols in said first signal.

1           3.       (AMENDED) A method according to claim 2, [characterized in that,] wherein, when  
2 said first signal includes a number of blocks of information symbols including [a] the known sequence  
3 of symbols, said estimate of said noise is performed continuously.

1           4.       (AMENDED) A method according to claim 2 or 3, [characterized in that] wherein said  
2 noise is estimated as [the] a mean error distance between [a] said known sequence of symbols and  
3 [the] corresponding symbols of said intermediate signal multiplied by a given factor.

1           5.       (AMENDED) A method according to [one or more of claims 1-4, characterized in  
2 that] any one of claims 1-3, wherein a given signal processing path is [cancelled] canceled when [the]  
3 a first metric thereof is larger than [the] a metric of [another] a second given signal processing path and  
4 a given number of corresponding previously set symbols in said given and said [another] second given  
5 signal processing path are equal.

1           6.       (AMENDED) A method according to [one or more of claims 1-4, characterized in  
2 that] any one of claims 1-3, wherein a given signal processing path is [cancelled] canceled when [the]  
3 a first metric of the given signal processing path exceeds [the] a metric of at least one of all other signal  
4 processing paths by a given predefined amount.

1           7.       (AMENDED) A mobile station adapted to detect a sequence of information symbols  
2 from a first signal subjected to inter-symbol interference, wherein each symbol of said sequence of  
3 information symbols can adopt one of a [number] plurality of different values, said mobile station [being]  
4 adapted to [said detection as one or more] detect at least one signal processing [paths] path, [and] said  
5 mobile station comprising [including]:

6                 setting means adapted to [setting] set, in each of said [one or more] at least one signal  
7 processing [paths] path, each symbol in the sequence to a value based on an intermediate signal derived  
8 from said first signal and a feedback signal generated on the basis of one or more previously set  
9 symbols[.];

10                dividing means adapted to divide a signal processing path, in which said intermediate  
11 signal for a given symbol exceeds a given threshold, into two separate signal processing paths, whereby  
12 said given symbol is set to different values in each of said two separate signal processing paths[, and];

13                selecting means adapted to [selecting] select, after setting [a number of] at least one  
14 symbol [symbols], the sequence of information symbols from one of said [one or more] at least one  
15 signal processing path [paths] as [the] a detected sequence of information symbols[.]; and  
16 [characterized in that

17                said mobile station further comprises] adjusting means adapted to adjust said given  
18 threshold in accordance with an estimate of noise in said intermediate signal.

1           8.       (AMENDED) A mobile station according to claim 7, [characterized in that] wherein  
2 said adjusting means is adapted to estimate said noise using a known sequence of symbols in said first  
3 signal.

1           9.       (AMENDED) A mobile station according to claim 8, [characterized in that,] wherein  
2 when said first signal includes a number of blocks of information symbols including a known sequence  
3 of symbols, said adjusting means [is] being adapted to perform [said] estimation of said noise  
4 continuously.

1           10.     (AMENDED) A mobile station according to claim 8 or 9, [characterized in that]  
2     wherein said adjusting means is adapted to estimate said noise as [the] a mean error distance between  
3     a known sequence of symbols and [the] corresponding symbols of said intermediate signal multiplied  
4     by a given factor.

1           11.     (AMENDED) A mobile station according to [claims 7-10, characterized in that] any  
2     one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing  
3     path, when [the] a metric thereof is larger than [the] a metric of [another] a second given signal  
4     processing path, and a given number of corresponding previously set symbols in said given and said  
5     [another] second given signal processing path are equal.

1           12.     (AMENDED) A mobile station according to [claims 7-10, characterized in that] any  
2     one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing  
3     path when [the] a metric of the given signal processing path exceeds [the] a metric of at least one of all  
4     other signal processing [path] paths by a given predefined amount.



Patent Application  
Docket No. 47253-00018

CLAIMS AS PENDING IN THIS APPLICATION

- Sub B47
- A1
1. (AMENDED) A method of detecting a sequence of information symbols from a first signal subjected to inter-symbol interference, wherein each symbol of the sequence of information symbols can adopt one of a plurality of different values, said method being performed as at least one signal processing path, the method comprising:  
    setting, in each of said at least one signal processing path, a symbol in the sequence of information symbols to a value based on an intermediate signal derived from said first signal and a feedback signal generated on the basis of one or more previously set symbols;  
    dividing a signal processing path, in which said intermediate signal for a given symbol exceeds a given threshold, into two separate signal processing paths, setting said given symbol to different values in each of said two separate signal processing paths;  
    selecting, after setting at least one symbol, the sequence of information symbols from one of said at least one signal processing path as a detected sequence of information symbols; and  
    adjusting said given threshold in accordance with an estimate of noise in said intermediate signal.
  2. (AMENDED) A method according to claim 1, wherein said noise is estimated by use of a known sequence of symbols in said first signal.
  3. (AMENDED) A method according to claim 2, wherein, when said first signal includes a number of blocks of information symbols including the known sequence of symbols, said estimate of said noise is performed continuously.
  4. (AMENDED) A method according to claim 2 or 3, wherein said noise is estimated as a mean error distance between said known sequence of symbols and corresponding symbols of said intermediate signal multiplied by a given factor.

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5. (AMENDED) A method according to any one of claims 1-3, wherein a given signal processing path is canceled when a first metric thereof is larger than a metric of a second given signal processing path and a given number of corresponding previously set symbols in said given and said second given signal processing path are equal.

Al 6. (AMENDED) A method according to any one of claims 1-3, wherein a given signal processing path is canceled when a first metric of the given signal processing path exceeds a metric of at least one of all other signal processing paths by a given predefined amount.

7. (AMENDED) A mobile station adapted to detect a sequence of information symbols from a first signal subjected to inter-symbol interference, wherein each symbol of said sequence of information symbols can adopt one of a plurality of different values, said mobile station adapted to detect at least one signal processing path, said mobile station comprising:

setting means adapted to set, in each of said at least one signal processing path, each symbol in the sequence to a value based on an intermediate signal derived from said first signal and a feedback signal generated on the basis of one or more previously set symbols;

dividing means adapted to divide a signal processing path, in which said intermediate signal for a given symbol exceeds a given threshold, into two separate signal processing paths, whereby said given symbol is set to different values in each of said two separate signal processing paths;

selecting means adapted to select, after setting at least one symbol, the sequence of information symbols from one of said at least one signal processing path as a detected sequence of information symbols; and

adjusting means adapted to adjust said given threshold in accordance with an estimate of noise in said intermediate signal.

8. (AMENDED) A mobile station according to claim 7, wherein said adjusting means is adapted to estimate said noise using a known sequence of symbols in said first signal.

9. (AMENDED) A mobile station according to claim 8, wherein when said first signal includes a number of blocks of information symbols including a known sequence of symbols, said adjusting means being adapted to perform estimation of said noise continuously.

Al 10. (AMENDED) A mobile station according to claim 8 or 9, wherein said adjusting means is adapted to estimate said noise as a mean error distance between a known sequence of symbols and corresponding symbols of said intermediate signal multiplied by a given factor.

11. (AMENDED) A mobile station according to any one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing path, when a metric thereof is larger than a metric of a second given signal processing path, and a given number of corresponding previously set symbols in said given and said second given signal processing path are equal.

12. (AMENDED) A mobile station according to any one of claims 7-9, wherein said selecting means is further adapted to cancel a given signal processing path when a metric of the given signal processing path exceeds a metric of at least one of all other signal processing paths by a given predefined amount.